

EH series

HITACHI

EH1100



Dump Truck

- **Model Code :** EH1100-3
- **Nominal Payload with Standard Equipment :** 60.3 tonnes (66.4 tons)
- **Target Gross Machine Operating Weight :** 104 541 kg
- **Engine :** MTU Detroit Diesel 12V Series 2000
Rated Power 567 kW (760 HP)

Hitachi Cutting Edge Technology Brings Best Performance and Comfort.

Hitachi Technology

Hitachi Trucks, like Hitachi Excavators are designed and manufactured using cutting edge technology. Trucks designed by Hitachi using Hitachi Electronic devices result in great electrical system reliability, efficiency and control.

High-Powered Engine

Strong, reliable power is provided by the MTU Detroit Diesel 12V Series 2000 diesel engine. This U.S. EPA Tier 2 and EU Stage II emission certified engine maintains a low fuel consumption level.

Long Frame Life

Frame rails are tapered from front to rear to distribute the load evenly over the entire length of the chassis. In place of castings, cold rolled steel is used as it is known to be more homogeneous and easier to repair. Weld joints are oriented longitudinally to the principal flow of stress for strength and long life. Proven design and manufacturing methods with state-of-the-art ultrasonic testing ensure a quality product.

Unique Body Design

The single sloped floor evenly distributes material shedding during dumping. A continuously exhaust-heated body reduces carry-back of material, and muffles exhaust. Horizontal floor and side rail stiffeners distribute load shocks evenly over the entire body length, minimizing stress concentrations in any one area. Closely spaced floor stiffeners reduce wear due to impact loading.

Well Matched: EH1100-3 & Excavators

Excavator	ZX870LCH-3 (BH)		EX1200-6 (BH)		EX1200-6 (LD)
Boom	7.1 m - BE Boom	8.4 m - H Boom	9.0 m - Boom	7.55 m - BE Boom	—
Arm	2.95 m - BE Arm	3.7 m - H Arm	3.6 m - Arm	3.4 m - BE Arm	—
Bucket Capacity	*4.3 m³	*3.5 m³	*5.2 m³	*6.7 m³	6.5 m³
Passes	8	10	6	5	5

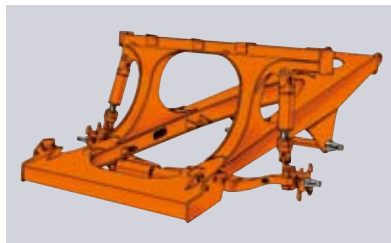
BH : Backhoe LD : Loading shovel *SAE, PCSA heaped capacity



Rugged Construction

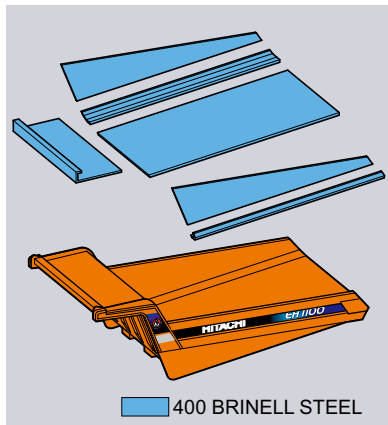
Technologically Advanced

The EH1100-3 is designed to develop low cycle times and extra efficiency in the heavy duty applications of quarrying and mining. This truck provides low operating costs, unparalleled productivity and overall quality through its superior structure and systems design.



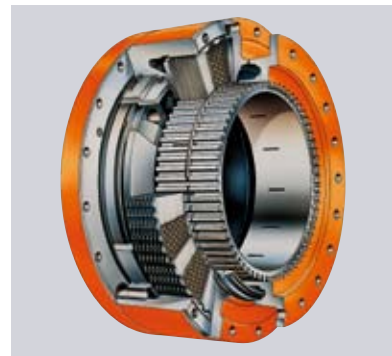
Robust Frame

Full fabricated box section main rails with section height tapered from front to rear. Narrow at the rear to support the load and wider at the front allowing truck stability and excellent engine access for servicing. One piece top and bottom flanges that eliminate cross member tie in joints and provide a large exposed center area for access to major components. Large radii at frame junctions are blended and ground to minimize stress concentrations. Weld joints are oriented longitudinally to the principal flow of stress for greater durability and more strength. Frame utilizes 345 MPa yield high strength low alloy steel that is robotically welded to ensure consistently high quality welds.



Reinforced Body

Built for quarry and mining applications, the EH1100-3 body uses an 18 mm floor plate and 8 mm side plates made of 400 BHN high-tensile steel. This provides high resistance to wear and impact. A low loading height and large target area allow easy, quick loading by a variety of loading tools.



Hydraulic Brake

The hydraulic brakes feature high reliability, durability and serviceability. The brake force yields maximum available braking under tough ground conditions for best control. Unique variable front to rear brake proportioning maximizes stopping performance under slippery road conditions.



Ease of Operation



Hi-Tech ROPS / FOPS Cab

The new Hi-TECH (Hitachi Technology) ROPS/FOPS Cab features a center integrated, "flat panel" style dashboard that positions the display and controls within close view of the road ahead. The cab uses double-wall construction and a 3-point rubber isolation-mount to absorb shocks and noise. The new high powered heater provides ample BTU's for all environments and working conditions. The new controller, built by Hitachi and also used in excavators, will perform its function of processing input and output information with reliability during the most rigorous haul cycle.



Auto-Lubrication System (Optional)

A pump fed system automatically applies grease to lube points via plumbing. The lubricant is automatically delivered in time controlled and metered quantities to all connected lube points in the system.

A choice between the Groeneveld or the Lincoln lubrication system is available.



Auto Lubricator
(Groeneveld)

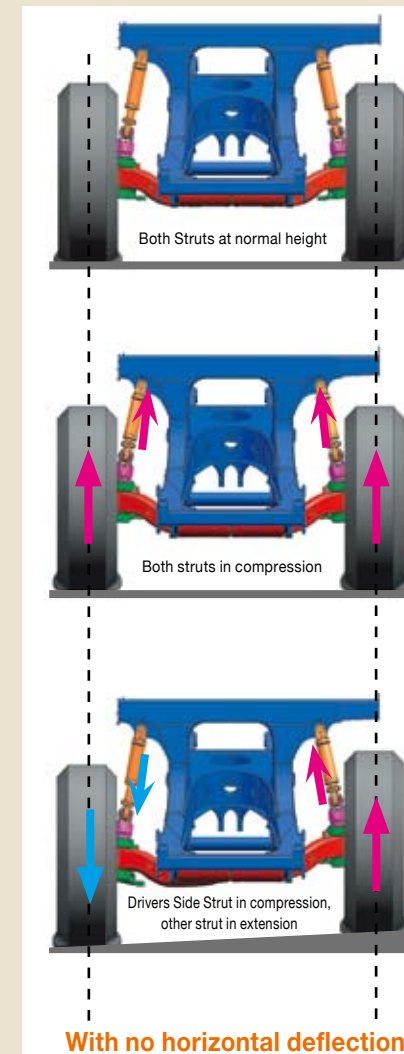
Operation and Error Indicator
(Groeneveld)

Superior Suspension

The Hitachi ACCU-TRAC suspension system delivers excellent maneuverability, even at higher speeds. The trailing arm layout offers greater ease of servicing while improving truck performance compared to suspended king-pin designs. The pivot mounting of the trailing arm design allows only axial input to the strut and allows wheel movement in the vertical plane only.

Features:

- Lateral forces that act on the front wheels are minimized, resulting in reduced tire scuffing.
- Dynamic friction (side-wall force) within the strut is low due to the features of the ACCU-TRAC design, allowing the use of a lighter strut engineered to a smaller diameter and longer stroke.
- The necessary frame bulk (horse-collar structure) needed to mount a suspended king-pin is non-existent.
- The elimination of the "horse-collar" member provides greater engine access.
- The NEOCON strut used with the ACCU-TRAC suspension, improves operator and component isolation, provides better hauler stability and predictable operational control.
- Locating the king-pin close to the wheel assembly and at a slight angle results in low "Dry Park Steering" effort.
- Development of the compressible media, NEOCON-E™ fluid (proprietary, silicone based, environmentally friendly) for use in the suspension strut with Helium gas, results in an improved energy absorption (isolation) system and an improved energy release (stability) system that responds favorably whether traveling empty or with payload in a wide range of ambient temperatures.



Spindle

Each spindle is controlled by a hydraulic steering cylinder, rotates around the king-pin and the outer end of the trailing arm to position the wheels for steering. The spindles are attached by one tie-rod.

King-Pin

Retains the spindle to the trailing arm. Spindle rotates around the king-pin, which is locked in position. The Neocon-E strut attaches to the top.

Trailing Arm

Main suspension member to which other suspension components are attached. The trailing arms hinge on a torque tube that is clamped to the front of the frame.

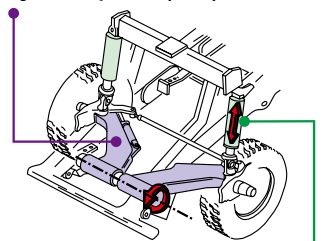
Neocon Strut

The energy absorption and release component of the ACCU-TRAC suspension system. Pinned to ball bushings at the frame and at the top of the king-pin to prevent bending movements from transferring to the strut. Receives only axial input.

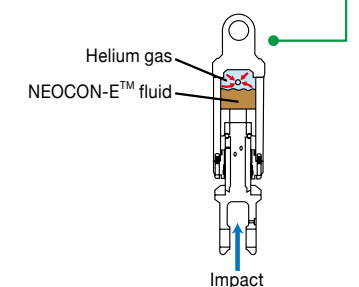


The ACCU-TRAC suspension design allows the front struts to be removed and installed without removing the trailing arms, brakes or tires. This relates to fewer tools and less labour required to perform the repair, which aims to reduce the amount of hauler downtime, increasing productivity.

Trailing Arm Suspension (Front)



NEOCON Strut (Front/Rear)



SPECIFICATIONS

ENGINE	
Model.....	MTU Detroit Diesel 12V Series 2000
Type.....	4 Cycle, V12, diesel injection
Emission Certification .	U.S. E.P.A Tier 2, E.U. Stage II
Aspiration.....	Turbocharged / Aftercooled
Rated Power	
SAE J1995, gross ..	567 kW (760 HP) at 2 100 min ⁻¹ (rpm)
SAE J1349, net	520 kW (698 HP) at 2 100 min ⁻¹ (rpm)
ISO 9249, net.....	520 kW (698 HP) at 2 100 min ⁻¹ (rpm)
EEC 80/1269, net ..	520 kW (698 HP) at 2 100 min ⁻¹ (rpm)
Maximum Torque	3 091 N·m (315 kgf·m) at 1 350 min ⁻¹ (rpm)
Piston Displacement...	23.9 L
Bore and Stroke.....	130 x 150 mm
Torque Rise.....	20 %
Starting	Electric

TRANSMISSION	
The transmission employs Shift Energy Management (SEM) which reduces engine torque during transmission shifts resulting in longer drivetrain life and increased operator comfort.	
Model.....	Allison H6610A
Design.....	Fully automatic, planetary type with integral lock-up converter
Mounting/Position	Remote from engine and rear axle for serviceability
Ranges	6 forward, 2 reverse
Control.....	Allison CEC2 electronics shift system with SEM (Shift Energy Management)

Gear	Ratio	km/h
1	4.00	9.7
2	2.68	14.5
3	2.01	19.4
4	1.35	28.9
5	1.00	39.0
6	0.67	58.2
R1	5.12	7.6
R2	3.46	11.3

DRIVE AXLE	
Model Differential.....	2354
Axle Design	Full floating axle shafts using a model 2354 differential and single reduction planetaries at each wheel
Traction Control	An optional electronic feature that includes the Electronic Downhill Speed Control feature
Differential and Final Drive Ratios	
Ratios	
Differential	3.64 : 1
Planetary	5.80 : 1
Total Reduction	21.11 : 1
Maximum Speeds	
with 24.00R35 tires	58.2 km/h

TIRES	
Front	24.00 R35(**) E4 (Radial) [Standard]
Rear	24.00 R35(**) E4 (Radial) [Standard]
Rim Width	432 mm (17 in)
Optional tires and tread patterns may be available.	

Note:
Certain job conditions may require higher rated TKPH (TMPH) tires in order to maintain maximum production. Hitachi recommends evaluating the job conditions and consulting the tire manufacturer to make proper tire selection.

ELECTRICAL SYSTEM	
24 volt starting, lighting and accessories system. 75 ampere alternator with integral transistorized voltage regulator. Two 12 V heavy duty batteries capable of 1300 cold cranking amps, each, at -18 degree C (0 degree F). A Hitachi solid state reprogrammable controller controls and monitors hauler systems, provides output information to control gauges and lights and incorporates connections for diagnostic tools.	

BODY CAPACITY	
	m ³
Struck (SAE)	28.2
Heap 3 : 1	35.2
Heap 2 : 1 (SAE)	38.7

Body capacity and payload subject to change based on customer specific material density, options and application.

WEIGHTS (Approximate)	
Net machine weight stated below includes standard equipment. Net machine weight changes will directly affect the Nominal Payload.	
Chassis with Hoist	33 248 kg
Body	11 012 kg
Net Machine Weight	44 260 kg
The Net Machine Weight specification includes operator and 100 % fuel.	
Nominal Payload	60.3 tonnes
Target GMOW	104 541 kg

The Nominal Payload specification is calculated using the Hitachi Loading Policy. Specific job site requirements may result in an adjustment to the Nominal Payload weight. Consult your Hitachi dealer for a truck configuration which will match your haulage application.

Major Options	
The following list of options are examples which will change the Nominal Payload.	
Automatic Fire Suppression	
Body Liner, heavy duty and partial	
Deck Mounted Muffler	

Weight Distribution	Front	Rear
Empty	50 %	50 %
Loaded	34 %	66 %

STEERING SYSTEM	
Closed-center, full-time hydrostatic steering system using two double-acting cylinders, pressure limit with unload piston pump and brake actuation/steering system reservoir. An accumulator provides supplementary steering in accordance with ISO 5010 (SAE J1511). The Operators steering wheel offers 35 degrees of tilt and 47.7 mm of telescopic travel.	
Steering Angle	39 degrees
Turning Diameter: (SAE)	19.28 m
Steering Pump Output (at 2 100 min ⁻¹ (rpm)	94.7 L/min
System Pressure	19.0 MPa

HYDRAULIC SYSTEM	
Two 2-stage, double-acting cylinders, with cushioning in retraction, inverted and outboard mounted. Separate Hoist/Brake Cooling reservoir and independent tandem gear pump. Control valve mounted on reservoir.	
Body Raise Travel	60 degrees
Body Raise Time (at 2100 min ⁻¹ (rpm))	12.0 seconds
Body Down Time (at idle)	16.0 seconds
Brake Cooling Pump Output (at 2100 min ⁻¹ (rpm))	176 L/min
Hoist Pump Output (at 2100 min ⁻¹ (rpm))	468 L/min
System Relief Pressure (Hoist)	17.2 MPa

BRAKE SYSTEM	
Brake system complies with ISO 3450 (SAE J1473).	

All-hydraulic actuated braking system providing precise braking control and quick system response. The Hitachi brake controller has a unique variable front to rear brake proportioning that maximizes the stopping performance under all road conditions.

Service
All-hydraulic actuated front dry disc brakes and rear oil-cooled wet disc brakes are equipped.

Wet Disc Brake
The Hitachi wet disc brake is engineered for long service life even in the most extreme environments. The wet disc brakes are located on the rear axle and provide service braking, secondary braking, and retarding. The brakes are a multi-plate design, and continuously oil-cooled. The sealed design protects against environmental contamination for prolonged service life. The wet disc brake is designed with automatic retraction to prevent drag. Separate pedals activate the service braking and retarding functions.

Front Axle - Dry Disc	
Disc diameter each (2 discs/axle)	686 mm
Brake surface area per axle	7 316 cm ²
Lining area per axle	2 787 cm ²
Brake pressure (Max.)	15.9 MPa

Rear Axle - Oil-Cooled Wet Disc	
Brake surface area per axle	58 732 cm ²
Brake pressure (Max.)	4.8 MPa

Secondary
Two independent circuits within the service brake system provide back-up stopping capability. System is manually or automatically applied to stop machine within prescribed braking distance.

Parking
The parking brake is a dry disc mounted on differential input shaft and controlled by a toggle switch on the dash. Brakes apply automatically if hydraulic pressure is lost.

Disc Diameter	597 mm
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Retarder
Foot-operated valve controls all-hydraulic actuation of oil-cooled wet disc brakes on rear axle. System provides modulated pressure to rear brakes for constant speed control.

Continuous	656 kW	(880 HP)
Intermittent	1 268 kW	(1 700 HP)

Load/Dump Brake Apply
Through activation of a switch by the operator, a solenoid is energized, sending full brake pressure to apply the rear Wet Disc brakes. For use during the load and dump cycles.

HI-TECH ROPS / FOPS CAB	
Hi-Tech ROPS / FOPS Cab	
ROPS complies with ISO 3471 and SAE J1040-May 94. FOPS complies with ISO 3449. Double wall construction of 11 gauge inner and outer steel panels, lends itself to a more structurally sound cab. Multiple layered floor mats act to absorb sound and control interior temperature. A properly maintained cab from Hitachi, tested with doors and windows closed per work cycle procedures in ISO 6394: 1998 (dBA), results in an operator sound exposure Leq (Equivalent Sound Level) of 81 dB(A). A three-point rubber iso-mount arrangement to the deck surface minimizes vibration to the operator compartment.	

Excellent Serviceability
A removable front panel allows easy access to service brake valves, retarder valve and heater assembly. A removable cover located behind the operators' seat provides easy access to the Transmission Contoller (TCU), Central Controller (CCU) and all electrical junction points.

Comfort and Ease of Operation
A flat panel style dashboard positions controls within easy reach and visual contact. A full complement of easy-to-read gauges, automobile type monitor with warning system, a spacious environment, multiple position adjustable seat, tilt/telescopic steering wheel, filtered cab ventilation and door locks all contribute to operator convenience, control and comfort.

SUSPENSION	
Front and Rear Suspension	
For years, Hitachi haulers have enjoyed an industry-wide reputation for superior suspension systems. That experience and knowledge has now been pushed to the next level, to develop the truly advanced ACCU-TRAC suspension for the EH1100. To make sure it was fine tuned to the limit, Lotus Engineering, a world leader in suspension design, was contracted to review the entire system to assure optimized ride and handling performance.	

The ACCU-TRAC suspension system features independent trailing arms for each front wheel with NEOCON struts, containing energy absorbing gas and compressible NEOCON-E™ fluid, mounted between the king pins and the frame. This arrangement allows a wider front track that provides a better ride, improved stability and a reduced turning circle. The rear axle housing has an A-frame mounting. The rear NEOCON struts are mounted in a more vertical position which allows a more pure axial loading and reduces the tractive and braking forces transmitted to the nose cone.

NEOCON struts outperform competitive strut designs by improving isolation, stability, and control. Improved isolation means reduced impact loading on the structural members of the machine and greater operator comfort, resulting in longer equipment life and increased productivity. Improved stability means more consistent dynamic response of the machine to fluctuating load energy, resulting in predictable machine performance. Improved control means better machine maneuverability.

The Hitachi frame and ACCU-TRAC suspension system are designed to work in unison to provide maximum structural integrity and operator comfort. The fabricated rectangular frame rail construction provides superior resistance to bending and torsional loads while eliminating unnecessary weight. The unique ACCU-TRAC independent trailing arm suspension absorbs haul road input, minimizing suspension-induced frame twisting while providing independent tire action. NEOCON ride struts are mounted with spherical bushings, eliminating extreme sidewall forces by ensuring a purely axial input to the ride strut. The wide track stance of the ACCU-TRAC suspension system and the long wheel base assure a more stable, comfortable ride.

SPECIFICATIONS & EQUIPMENT

BODY

The body has been made to the flat floor, sloped tail chute design. The rear hinge has been designed to allow the hinge pin to float when the body is in the fully lowered position. The weight of the body and payload is distributed across rubber body pads that are evenly spread across the length of the body rail-box that rests on the truck frame.

Plate Thickness (Standard Body):

	mm	(in)
Floor	18	(0.69)
Front	10	(0.38)
Sides	8	(0.31)
Canopy	6	(0.25)
Valley	12	(0.50)

Options for Standard Body:

Body Liners (Medium Duty)		
Floor & Valley	10	(0.38)
Sides & Front	6	(0.25)
End Protection	10	(0.38)
Body Liners (Heavy Duty)		
Floor & Valley	13	(0.50)
Sides & Front	8	(0.31)
End Protection	10	(0.38)
Partial Liner (Heavy Duty)		
Floor & Valley	13	(0.50)
End Protection	10	(0.38)
Rock Cap		
Top of the Body Side Plate	10	(0.38)

Plate Thickness (Optional Quarry Body):

Floor	25	(1.00)
Front	16	(0.63)
Sides	14	(0.55)
Canopy	8	(0.31)
Valley	16	(0.63)

The horizontal stiffener design of the Hitachi body minimizes stress concentrations in any one area. Load shocks are dissipated over the entire body length. The closely spaced floor stiffeners provide additional protection by minimizing distance between unsupported areas.



SERVICE CAPACITIES

	L
Crankcase (includes filters)	83.3
Transmission, Cooler and Lines	93.3
Cooling System	215.8
Fuel Tank	700
Hydraulics	
Hoist Tank and System	265
Steering Tank and System	112
Drive Axle (2 wheels and differential)	103
Windshield Washer Fluid	5.7

STANDARD EQUIPMENT

GENERAL	
ACCU-TRAC suspension system	Guard rails
All-hydraulic braking	Hoist interlock
Allison H6610A automatic transmission	Hoist tank sight gauge
Battery disconnect switch	ISO decals
Body down cushioning	Load/dump brake
Body down indicator	Mirrors, left and right, hand adjustable
Body up speed restriction	Mud flaps
Canopy spill guard	NEOCON-E suspension struts
Continuous body heating	Park brake - dry disc
Cooling system sight gauge	Park brake interlock
Cooling system surge tank	Radiator grille guard
Driveline guard, front	Rear view camera system
Electric horns	Reverse alarm and light
Electric start	Rock ejector bars
Electronic hoist	Steering accumulator
Engine belt protection	Steering tank sight gauge
Fan guard	Tires 24.00 R35
Fenders	Tow points, front
5 piece rims	Transmission guard
Fixed steering stops	Transmission sight gauge
Front brake cut-off switch	Two speed reverse
Front view mirror	24 volt to 12 volt converter
Fuel tank level gauge	Water separator included in fuel filter
Ground level auxiliary start (boost) receptacle	

CAB

Air Conditioning	ISO driver envelope
Air filtration/replaceable element	Instrumentation cluster, electronic
Ashtray	Quick connect hydraulic test ports
Cab interior light	Rubber floor mat
Camera monitor	Safety glass
Cigar lighter, 24 volt	Seat belts, retractable (operator and trainer)
DC - DC, 24 to 12 V converter	Seat, mechanical, 3" lap belt *
Door locks	Sunvisor
Drivers door window activation	Tilt/telescoping steering wheel
mechanical, trainers window fixed	Tinted glass, all windows
Foot rest, left	Trainers seat
Fuses	12 volt accessory connection
Heater and defroster	Windshield washer
Integral ROPS/FOPS cab	Windshield wiper, intermittent
Integrated engine diagnostics connector	
Integrated transmission diagnostics connector	

ELECTRONIC DISPLAY (Hitachi Monitoring Information)

Lights with ISO symbols	LCD (Liquid Crystal Display)
Active Traction Control (optional)	Adjustable units of measure
Battery charge	Brake oil pressure
Body up	Brake oil temperature
Brake system oil pressure	Cumulative payload weight
Central warning (stop)	Date and time
Central warning (yellow caution)	Engine coolant temperature
Electronic downhill speed control (optional)	Engine oil pressure
Engine coolant level	Filter restrictions
Engine oil pressure	Hourmeter
Filter restrictions	Load Count
High beam	Odometer
Parking brake	Parking brake applier
Payload red (optional)	Speedometer
Payload yellow (optional)	Steering oil pressure
Retarder temperature	Steering oil temperature
Seat belt disconnected	System diagnostics
Steering oil pressure	Tachometer
Transmission oil pressure	Transmission oil pressure
Transmission oil temperature	Transmission oil temperature
Turn signal/ hazard	Transmission range selection
	Trip Odometer
	Voltmeter

EQUIPMENT & DIMENSIONS

GAUGES

Engine coolant temperature	Speedometer
Fuel gauge	Tachometer

MACHINE LIGHTS

Amber turn signals and four-way flashers	Clearance light - rear (2)
Back-up light	Halogen head lights (4)
Clearance light - front (2)	Stop & tail (2)

OPTIONAL EQUIPMENT

CAB

Active Traction Control (ATC) w/ Electronic Downhill Speed Control (EDSC)	Driver and trainer window activation mechanical
Air suspension seat *	Electric RHS and LHS power windows
Air suspension seat, semi-active, w/ heat, w/ lumbar, w/ parking brake alarm, w/ seat belt alarm, 3-point seat belts *	Engine idle timer
AM-FM radio w/ CD & Aux. input	HAULTRONICS III load monitoring system
Circuit Breakers in place of fuses	Hill hold brake
	Satellite radio
	Speakers, antenna and wiring only

* Features
Parking brake alarm: Audible when parking brake not applied and operator is not seated
Seat belt alarm: Audible and visible when truck is running and seat belt is not buckled

CHASSIS

Additional backup lights - halogen, mudguard mounted	Fluid drain kit - FEMCO
Additional backup lights - HID, mudguard mounted	Fluid sampling points
Ansul fire suppression, manually actuated	Fog lights
Body liners (400BHN) plates, medium, heavy duty or partial	Ground level engine shutdown
Canopy spill guard extension	LHS arm guard
Cold weather package	Lube system, centralized
Mild cold weather package (0 deg C to -20 deg C) (32 deg F to -4 deg F)	Lube system, Lincoln
Extreme cold weather package (-20 deg C to -35 deg C) (-4 deg F to -31 deg F)	Premium light package (HID headlights, LED marker lights)
Deck mounted muffler	Quarry Body (Heap 2:1, SAE 42 m³), made using heavier plate for large fragmented rock, includes load monitoring system
Electrically heated mirrors	Rear driveline guard
Engine access step	Rock cap
Engine compartment lights	Service center with fast fuel
Engine side panels, for dust / dirt protection	Service center without fast fuel
Extra reverse light on light mount bracket	Side extensions
Fan clutch	Side Mudguards, mounted to cab deck
Fire extinguisher, deck mounted	Side view camera (RHS)
	Spare rim
	Tires (type & rating)
	TranSynd™ transmission fluid
	Unit sound suppression

MISCELLANEOUS

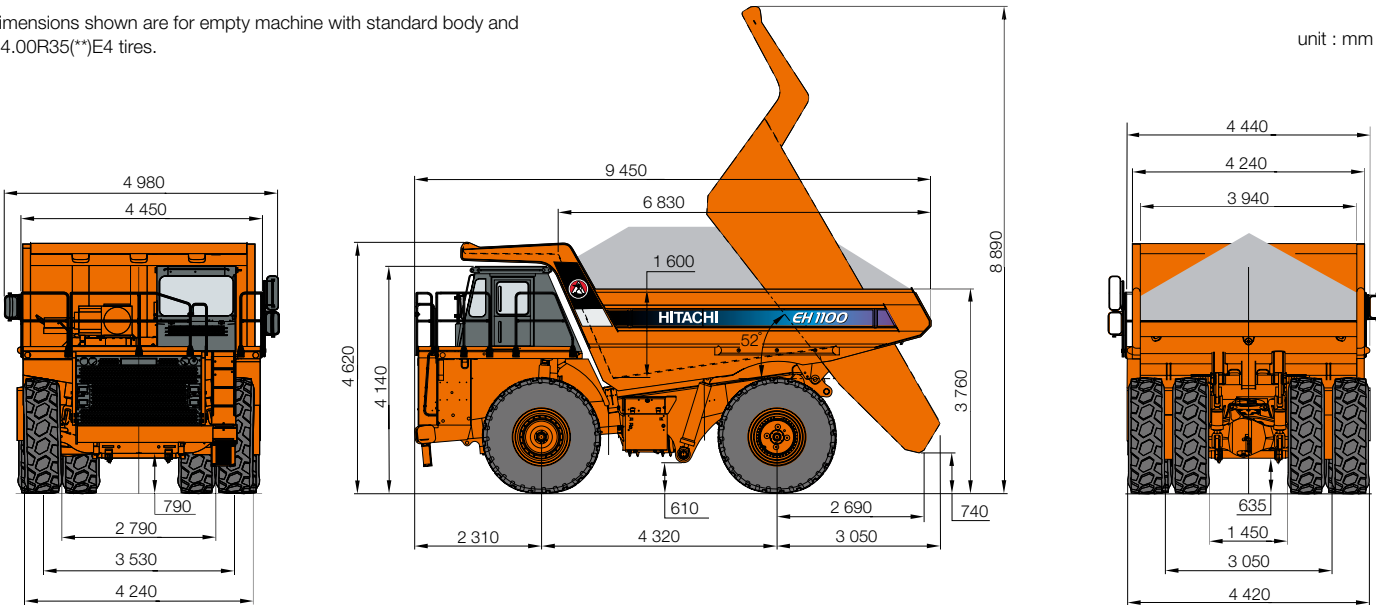
Extra operators manual	Service Manual - CD
Extra parts manual - CD	Service Manual - hardcopy
Extra parts manual - hardcopy	

OPTIONAL EQUIPMENT WEIGHT

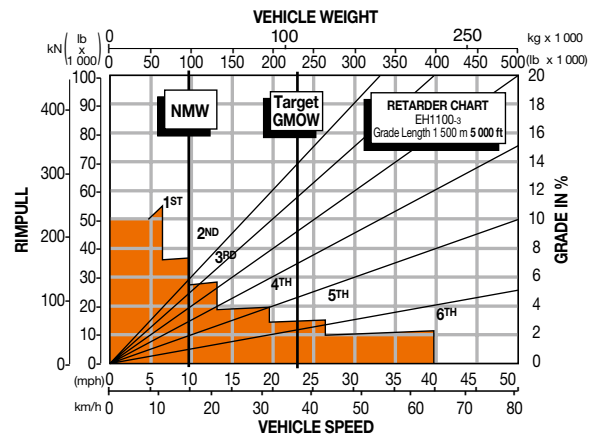
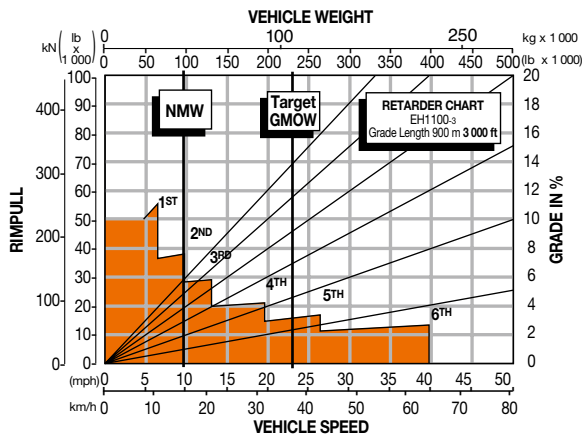
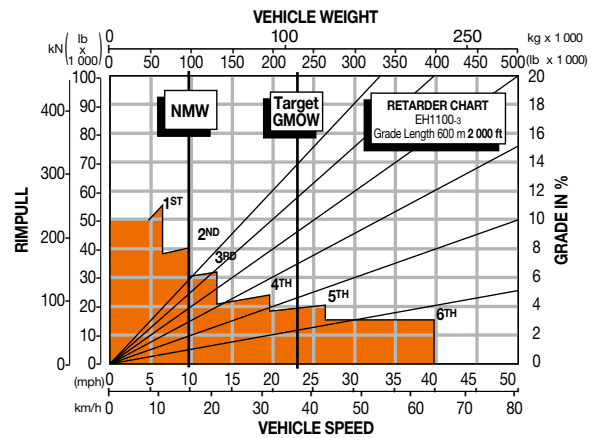
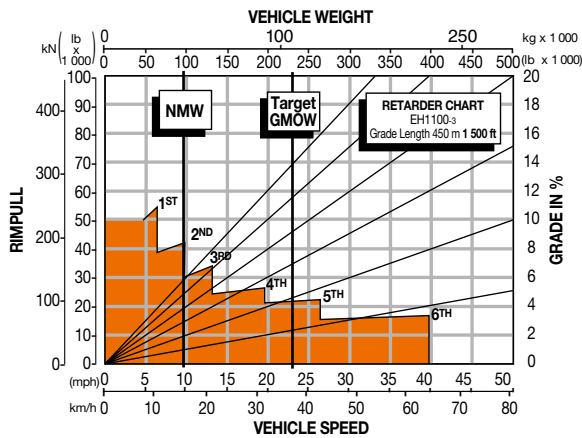
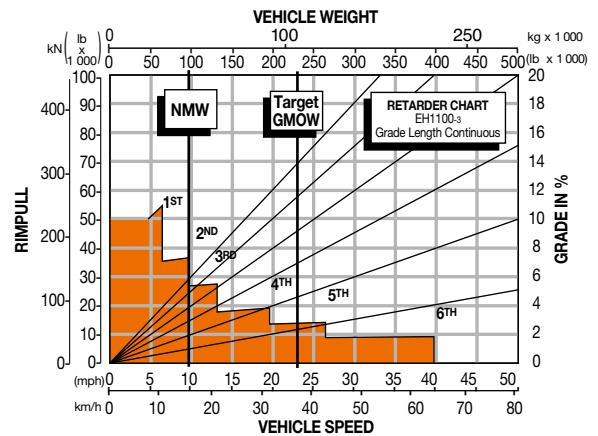
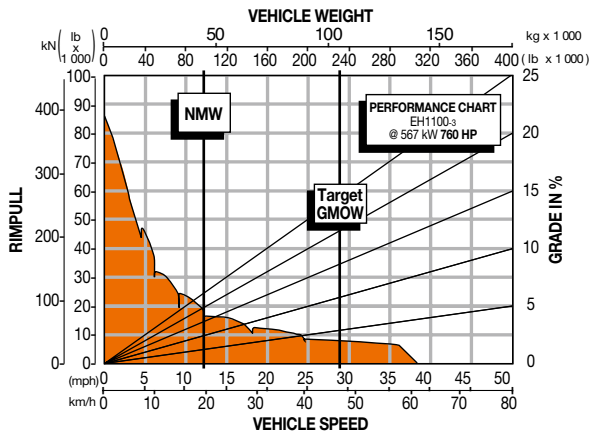
	kg
LHS arm guard	60
Body liners (400BHN) plates, medium	2 776
Body liners (400BHN) plates, heavy duty	3 582
Body liners (400BHN) plates, partial	2 461
Lube system, Groeneveld	120
Lube system, Lincoln	100
Quarry Body (additional weight to the standard body)	4 151
Rock Cap	277
Side Extensions	487
Canopy spill guard extension	99

Standard and optional equipment may vary from country to country. Special options provided on request. All specifications are subject to change without notice.

Note: Dimensions shown are for empty machine with standard body and 24.00R35(**)E4 tires.



PERFORMANCE DATA



NOTES:

Diagonal lines represent total resistance (Grade % plus rolling resistance %).

Charts based on 0 % rolling resistance, standard power of engine, standard tires and gearing unless otherwise stated.

1. Find the total resistance on diagonal lines on right-hand border of rimpull or retarder chart.
2. Follow the diagonal line downward and intersect the NMW or GMOW weight line.
3. From intersection, read horizontally right or left to intersect the rimpull or retarder curve.
4. Read down for machine speed.

These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features.

Before use, read and understand the Operator's Manual for proper operation.